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March 31, 2022  
Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

Re: Premium Energy Holdings' Application for Preliminary Permit for the  
Nacimiento Pumped Storage Hydro Project, FERC Project No.

Dear Secretary Bose:

Pursuant to 18 C.F.R. §§ 4.32 and 4.81 of the Federal Energy Regulatory Commission's ("FERC") regulations, enclosed for filing is Premium Energy Holdings, LLC's ("Premium Energy") Application for Preliminary Permit for the Nacimiento Pumped Storage Hydro Project.

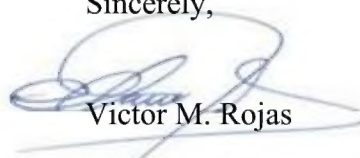
As detailed in the application, Premium Energy proposes to evaluate the potential development of a pumped storage power plant in the northern area of San Luis Obispo County in southern California. Premium Energy has a keen interest in harnessing and increasing renewable energy production in California, primarily firming and shaping offshore wind generation, developing long-duration energy storage projects as Nacimiento PSH.

The submittal of this application is for the purpose of securing priority during the licensing process. Feasibility studies will be carried out during the term of this preliminary permit to support the license application.

Premium Energy looks forward to working with the Commission while developing this important new source of clean and sustainable long-duration and large-scale energy storage, geared up to support the development of California's 20GW of offshore wind generation.

If you have any questions or require additional information regarding this submittal, please contact me at (909) 595-5314 or email me at [victor.rojas@pehllc.net](mailto:victor.rojas@pehllc.net).

Sincerely,

A handwritten signature in blue ink, appearing to read "Victor M. Rojas", is written over a horizontal line.

Victor M. Rojas

Managing Director at Premium Energy  
Holdings, LLC

Enclosures

cc:

**BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**APPLICATION FOR PRELIMINARY PERMIT  
FOR THE  
NACIMIENTO PUMPED STORAGE HYDRO PROJECT**

FERC Project No. \_\_\_\_\_

Prepared by

**Premium Energy Holdings, LLC**

March 31, 2022

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**INITIAL STATEMENT**  
**BEFORE THE**  
**FEDERAL ENERGY REGULATORY COMMISSION**

**Application for Preliminary Permit**  
**for the Nacimiento Pumped Hydro Storage Project**

Premium Energy Holdings, LLC (“Premium Energy” or “PEH”), a California based limited liability corporation, applies to the Federal Energy Regulatory Commission for a preliminary permit for the proposed Nacimiento Pumped Storage Hydro project, as described in the attached exhibits. This application is made in order that the applicant may secure and maintain priority of application for a license for the project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for a license.

1. The location of the proposed project is:

State or territory: California  
Counties: San Luis Obispo County  
Township or nearby town: Oak Shores  
Streams or other body of water: Lake Nacimiento, North Fork Pico Creek

2. The exact name, business address, and telephone number of the applicant are:

Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789  
Telephone: (909) 595-5314

3. The exact name and business address of each person authorized to act as agent for the applicant in this application are:

Victor M. Rojas  
Managing Director at Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789  
Telephone: (909) 595-5314  
Email: victor.rojas@pehllc.net

Maria Flores  
Project Manager at Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789  
Telephone: (909) 595-5314  
Email: maria.flores@pehllc.net

4. Preference under Section 7(a) of the Federal Power Act

Premium Energy is a corporation operating in California and is not claiming preference under section 7(a) of the Federal Power Act. Premium Energy's business primarily involves the retrofit and modernization of power plants and pumping plants, transmission planning and design, power system studies, testing and commissioning of power plants and substations.

5. Term of Permit:

The proposed term of the requested permit is forty-eight (48) months.

6. Existing Dams or Other Project Facilities:

The proposed project would use water from Lake Nacimiento, impounded by the Nacimiento Dam. The project also proposes the construction of a new upper reservoir with its respective dam.

**ADDITIONAL INFORMATION REQUIRED BY 18 C.F.R. § 4.32(a)**

1. Identification of persons, associations, domestic corporations, municipalities, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project:

Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789  
Telephone: (909) 595-5314

2. Identify (names and mailing addresses):

- i. Every county in which any part of the project, and any Federal facilities that would be used by the project, would be located.

San Luis Obispo County. County Government Center  
1055 Monterey Street  
San Luis Obispo, CA 93408  
Telephone: (805) 781-5000

- ii. Every city, town or similar local political subdivision:

- (A) In which any part of the project, and any Federal facilities that would be used by the project, would be located:

*None.*

- (B) That has a population of 5,000 or more people and is located within 15 miles of the project dam:

Cambria Community Services District  
1316 Tamsen Drive  
Cambria, Ca. 93428  
Telephone: (805) 927-6223

- iii. Every irrigation district, drainage district, or similar special purpose political subdivision:

- (A) In which any part of the project, and any Federal facilities that would be used by the project, would be located:

San Luis Obispo County Department of Public Works - Flood Control and Water Conservation District  
976 Osos Street, Room 206  
San Luis Obispo, CA 93408  
Telephone: (805) 781-5252

California Department of Water Resources  
1416 9<sup>th</sup> Street  
Sacramento, CA 95814  
Telephone: (916) 653-5719

- (B) That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project:

Monterey County Parks Department  
1441 Schilling Place, 2<sup>nd</sup> floor  
Salinas, CA 93901  
Telephone: (831) 755-4895

Monterey County Water Resources Agency  
1441 Schilling Place, North Building  
Salinas, CA 93901  
Telephone: (831) 755-4860

- iv. Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application; and interest:

Heritage Ranch Owners Association  
2130 Heritage Loop Road  
Paso Robles, CA 93446  
Telephone: (805) 238-9641

Oak Shores Community Association  
2727 Turkey Cove Road  
Bradley, CA 93426  
Telephone: (805) 472-2233

San Luis Obispo Sheriff's Office  
1585 Kansas Avenue  
San Luis Obispo, CA 93405  
Telephone: (805) 781-4540

- v. All Indian tribes that may be affected by the project:

Chairperson  
Tule River Indian Tribe of the Tule River Reservation  
P.O. Box 589  
Porterville, CA 93258-0589  
Telephone: (559) 781-4271



## VERIFICATION STATEMENT

This application for a preliminary permit for the proposed Nacimiento Pumped Storage Hydro project is executed in the state of California, county of Los Angeles.

By: Victor M. Rojas  
Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789

Being duly sworn, deposes, and says that the contents of this application for a preliminary permit are true to the best of his knowledge or belief. The undersigned applicant has signed the application this 31<sup>st</sup> day of March of 2022.



Victor Rojas  
Managing Director at Premium Energy Holdings, LLC

Subscribed and sworn before me, a Notary Public of the State of California, County of Los Angeles, this day of March 31, 2022.

  
NOTARY PUBLIC

## EXHIBIT 1 – DESCRIPTION OF THE PROPOSED PROJECT

### 1. GENERAL CONFIGURATION.

The proposed Nacimiento Pumped Storage Hydro project (“Nacimiento PSH” or “Project”) would be located 27 miles northwest of Highway 101 in Paso Robles, California, in San Luis Obispo County. The project concept envisions the construction of a pumped storage power facility with a minimum capacity of about 600 MW to a maximum of about 1,500 MW, and a minimum storage duration of 8 hours to a maximum of about 48 hours duration.

The Nacimiento PSH would add storage resources to the state’s clean energy portfolio and would help in the goal of reducing carbon footprint, improving the grid’s reliability and flexibility, and meeting customer’s needs.

The project proposes the use of Lake Nacimiento as a lower reservoir, and the construction of a new upper reservoir in either of the locations described below and depicted in Exhibit 3, Map 1.

**Alternative A.** “Fork Pico Reservoir” in the Middle Ridge mountains, almost 7 miles southwest of Lake Nacimiento, with an elevation of 1,952 ft. This alternative would require the following construction activities:

- Earthworks and grading to obtain the proposed reservoir floor.
- Construction of the proposed Dam for the upper reservoir.
- Realignment of a section of an existing road.

Fork Pico Reservoir would be on private owned land, the penstocks would pass through land owned by several private owners.

**Alternative B.** “Carrol Reservoir” close to Carrol Canyon, around 4 miles southwest of Lake Nacimiento, with an elevation of 1,788 ft. This alternative would require the following construction activities:

- Earthworks and grading to obtain the proposed reservoir floor.
- Construction of the proposed Dam for the upper reservoir.
- Construction of temporary roads to reach the site.

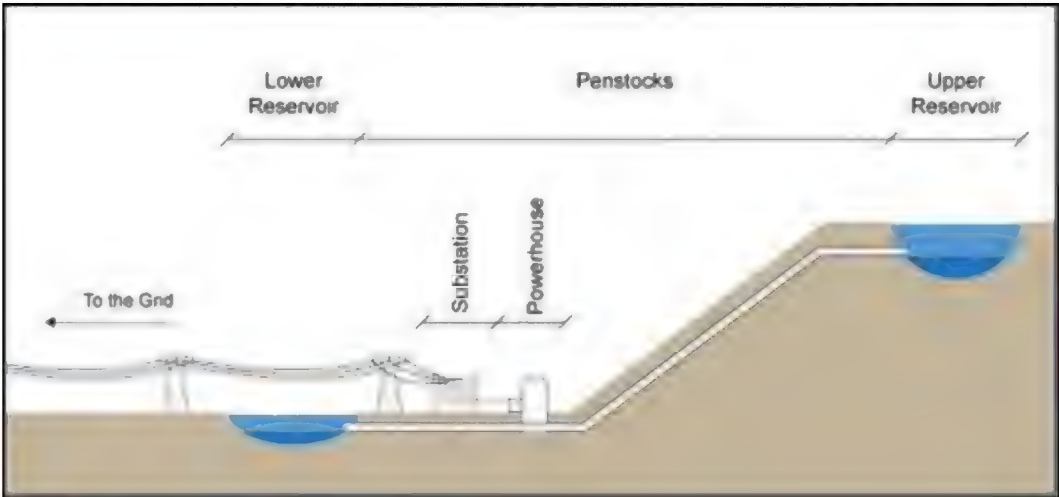
Carrol Reservoir would be on private owned land, the penstocks would pass through land owned by several private owners.

The Project’s powerhouse and substation, for any of the alternatives, would be located on land owned by County of Monterey.

It is expected that surrounding electrical utilities will be interested in the project as a resource for storing renewable energy.

The proposed project would operate as a closed loop hydro-power pumped storage plant (Figure 1). Once the proposed upper reservoir is filled with enough stored water for project operation, water will not be taken from Lake Nacimiento, except for small amounts to make up for losses due to evaporation. Percolation losses will be controlled using geomembranes covering the bottom of the upper reservoir.

Figure 1. Typical PSH Configuration (not to scale).



The project’s proposed upper reservoirs would require the construction of new embankments for them to be filled. The embankments for the project’s proposed reservoirs would consist of compacted earth dams. Conceptual dimensions for the project’s dams and penstock for each alternative are detailed in Table 1 to 3.

Table 1. New Reservoirs’ Embankment Dimensions

Description	Proposed Reservoir	Dam Crest Elev. [ft]	Dam Height [ft]	Dam Length at Crest [ft]
Upper Reservoir Alternatives	Fork Pico Reservoir (Alt. A)	1,969	282	1,935
	Carrol Reservoir (Alt. B)	1,804	282	1,348

Table 2. Hydro Power Penstock Dimensions: Fork Pico – Nacimiento.

Fork Pico - Nacimiento		
	Diameter (ft)	Length (mi)
Headrace Tunnel	24	0.74
Vertical Shaft	21	0.17
Horizontal Tunnel	21	5.13
Penstocks	14	0.07
Tailrace Tunnel	25	1.06

Table 3. Hydro Power Penstock Dimensions: Carrol – Nacimiento.

<b>Carrol- Nacimiento</b>		
	<b>Diameter (ft)</b>	<b>Length (mi)</b>
<b>Headrace Tunnel</b>	26	0.42
<b>Vertical Shaft</b>	23	0.10
<b>Horizontal Tunnel</b>	23	2.93
<b>Penstocks</b>	15	0.04
<b>Tailrace Tunnel</b>	28	0.61

Aside from the construction of the new embankments for the new upper reservoir, a hydro power penstock or pressurized tunnel will be required to connect the two reservoirs to the powerhouse. The pumped storage powerhouse, generating/pumping units, electrical switchyards, interconnecting transmission lines, and other appurtenant facilities would complete the project.

For the electrical interconnection of the Nacimiento PSH Powerhouse, three alternatives are being proposed and described in Exhibit 1 Section 3 “Transmission Lines”. New transmission lines would be needed, and it is expected to make use of Pacific Gas & Electric’s (PG&E) existing right-of-way, as well as upgrades to existing transmission lines and substations.

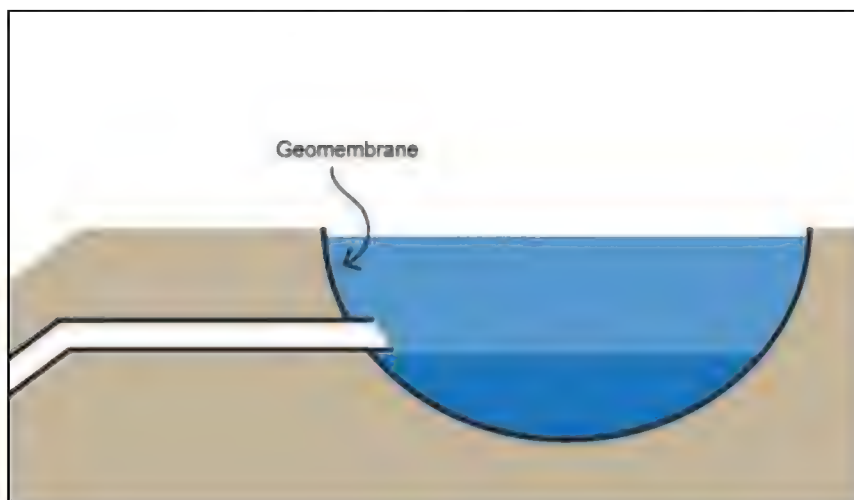
## 2. RESERVOIRS.

The upper and lower reservoirs configuration is to be best suited to maximize the available hydraulic head, as well as minimize the penstock layout within environmental constraints. The proposed reservoir sites within this application are the result of conceptual engineering completed by Premium Energy and its consultants. During the term of the preliminary permit, PEH will further investigate on the new reservoirs configuration and select the best suited location for energy, economic and environmental considerations.

The project concept includes one lower reservoir alternative (existing Lake Nacimiento) and two upper reservoir alternatives in the northern area of San Luis Obispo County. A hydraulic head between 987 ft and 1,151 ft, depending on the selected alternative, would exist between the new upper and the lower reservoir, which would be exploited for hydro power generation.

Although percolation losses could otherwise represent a major setback on the development of the project, PEH is considering the implementation of geomembranes on the base of the reservoir to reduce these losses (See Figure 2). Further studies would need to be conducted to determine the permeability of the soil.

Figure 2. Conceptual diagram: Geomembrane implementation (not to scale).



#### A. Lower Reservoir Configuration

The project proposes the use of Lake Nacimiento as a lower reservoir, a man-made reservoir completed in 1956, with the construction of the Nacimiento Dam. Its main purpose is to provide flood control and irrigation water, and to provide recreational activities, such as waterskiing, waterboarding, jet skiing, wake surfing, and others. It also is a source of supply for groundwater recharge for the Salinas Valley<sup>1</sup>.

The lake is owned and operated by the Monterey County Water Resources Agency, and there is a water entitlement to the San Luis Obispo County Flood Control and Water Conservation District<sup>1</sup> for use in San Luis Obispo County.

The Project will operate in a closed loop system. Therefore, operation will reuse the water in a cyclic manner and no more significant amount of water will be diverted from Lake Nacimiento once the upper reservoir filling is completed. The project's proposed reservoir will provide enough water storage capacity for the minimum capacity of 600 MW continuous output for a minimum of 8 hours.

The project is scalable and depending on the market demands for larger capacity and extended hours storage, could be uprated up to 1,500 MW or larger, with storage duration of up to 48 hours to support grid power restoration after a major grid black out.

#### B. Upper Reservoir Configuration

Both upper reservoir alternatives would be located in private owned land. The new upper reservoir alternatives' physical characteristics are detailed in Table 4.

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<sup>1</sup> <https://www.slocity.org/government/department-directory/utilities-department/water/water-sources/nacimiento-reservoir>



Table 4. Upper Reservoir Alternatives Characteristics

Proposed Upper Reservoir	Surface Area [acre]	Storage Capacity [acre-ft]	Maximum Surface Elevation [ft]
Alt. A: Fork Pico Reservoir	85	7,500	1,952
Alt. B: Carrol Reservoir	72	8,000	1,788

Any of the proposed upper reservoir alternatives would have enough storage capacity for 600 MW of power generation for up to 8 hours.

Again, the project is scalable, and the upper reservoir could be enlarged or connected to other upper reservoirs to increase the capacity rating of the PSH to 1,500 MW or more, and with storage duration of up to 48 hours.

To enable pumped storage operation, the new upper reservoir will have intake-outlet structures with a submerged intake elevation at an adequate height. Below this elevation, a permanent reserve of water will remain in the reservoirs. From the intake-outlet structures, a hydro power penstock or pressure tunnel will unfold to connect to the new Nacimiento PSH Powerhouse and then to Lake Nacimiento.

Additional tunnels may be constructed depending on the final rating of the project.

In the event water would need to be released from the selected upper reservoir, it would discharge through the spillways. For either of the proposed upper alternatives, Fork Pico or Carrol, runoff water would run through natural creeks. Definitive runoff paths and improvements, if needed, will be developed during the Preliminary Permit's term.

### 3. TRANSMISSION LINES.

A new Nacimiento PSH Substation would be installed in the southern shore of Lake Nacimiento close to the Powerhouse, which could be located above-ground. The alternatives to interconnect the Proposed Substation to the regional electrical utility network are described below.

1. **Transmission Alternative 1.** Considers the construction of a new 230 kV transmission line to interconnect the Nacimiento PSH with PG&E's network. To this end, around 21 miles of a new right-of-way would be constructed. The selected Point of Interconnection (POI) for this alternative would be the existing 60 kV Perry Substation, which would be upgraded to 230 kV. The transmission line from Perry Substation to Cayucos Substation, would also be upgraded to 230 kV to handle power during charge and discharge operations (See Exhibit 3, Map 2).
2. **Transmission Alternative 2.** Considers the construction of a new 230 kV transmission line to interconnect the Nacimiento PSH with PG&E's network. To this end, around 26 miles of a new right-of-way would be constructed. The

selected POI for this alternative would be the existing 60 kV Paso Robles Substation, which would be upgraded to 230 kV. The transmission line from Paso Robles Substation to Templeton Substation, would also be upgraded to 230 kV to handle power during charge and discharge operations (See Exhibit 3, Map 3).

3. **Transmission Alternative 3.** Considers the construction of a new 230 kV transmission line to interconnect the Nacimiento PSH with PG&E's network. To this end, around 28 miles of a new right-of-way would be constructed. The selected POI for this alternative would be the existing 230 kV Templeton Substation. No electrical upgrades would be required (See Exhibit 3, Map 4).

The Nacimiento PSH would be able to store renewable energy, mainly offshore wind, and provide load balancing, as well as deliver energy to either PG&E or SCPPA members when needed. Further studies of the project's transmission path, voltage level, number of circuits, and interconnection alternatives will be carried out during the term of this preliminary permit, to select the best alternative.

#### 4. PROJECT CAPACITY.

The project is proposed to store renewable energy, mainly wind from the upcoming offshore projects in the Morro Bay and Diablo Canyon Call Areas, and facilitate the goal of supplying firm, low-priced, clean power to the grid during extended hours of storage operation (up to 48 hours).

Based on preliminary analysis, the initial planned total installed capacity of the Nacimiento PSH would be 600 MW. Considering the capacity factor, energy availability, roundtrip efficiency, and rated capacity, the estimated annual generation of the Project would be about 1,200 GWh. Although the project rating has been set to 600 MW/8 hours, the project's capacity and storage duration may vary as studies progress. Premium Energy also plans to conduct a system impact study and power market investigations to help further refine the progressive stages of development of suitable energy storage uprating.

The maximum gross head has been estimated to be up to 1,151 feet depending on the selected upper reservoir alternative. At the present time, the project concept envisions procurement of four new pump-turbine generator-motor sets for the initial 600 MW pumped storage powerhouse, with units rated at 150 MW each.

#### 5. FEDERAL LANDS.

At the time this permit is submitted, the project does not make use of Federal Lands. However, as the project is developed, this may change.

The interconnection of the project would use existing transmission lines interconnecting the proposed Nacimiento PSH's Substation, to PG&E's stations. The existing transmission corridor extends through private lands.

## 6. ADDITIONAL INFORMATION.

In the development of this application, Premium Energy has acknowledged the following issues pertaining to the project:

Wilderness, Conservation, and Roadless Areas: Premium Energy understands the importance of preserving the Wilderness designated areas under the Wilderness Act of 1964. Thus, PEH has reviewed information from the USDA Forest Service, Bureau of Land Management (BLM), and California Department of Fish and Wildlife (CDFW) to ensure the proposed reservoirs and facilities do not affect any Wilderness, Conservation, and Roadless areas. Additionally, mitigation measures and environmental remediation will be carried out throughout the project's lifetime to reduce the possible affectations.

Water Quality: PEH acknowledges that Lake Nacimiento has high concentrations of mercury due to runoff from near Mercury Mines, as stated in a Health Consultation prepared by the California Department of Health Services<sup>2</sup>:

*"The watershed of Lake Nacimiento has several abandoned or inactive mercury mines. The Klau/Buena Vista Mines have been identified as the major source of mercury in Lake Nacimiento sediment. The water is safe to drink and recreate in. However, mercury in the sediment has been converted to methylmercury by organisms living in the sediment and then there has been bioaccumulation of methylmercury in fish in the lake."*

Thus, Premium Energy will take adequate actions to reduce the impact of the project and avoid major disturbances on Lake Nacimiento.

Fire Areas: Premium Energy is aware of the Chimney Fire occurred in 2016 in the Project's area<sup>3</sup>. This has been considered for the electrical interconnection alternatives, avoiding crossing through the affected area, or resourcing to undergrounding of the line as needed.

Fault Zones: Both proposed upper reservoir alternatives are located close to the Oceanic Fault Zone. Fork Pico Reservoir is approximately 2 miles away, and Carrol Reservoir is around 5 miles away. This information has been obtained from the U.S. Geological Service (USGS).

Earthquake resistance will be a foremost requirement in the design of the proposed dams in this application. The selected upper reservoir dam will have an appropriate structural and geotechnical design to withstand the corresponding peak ground acceleration of the site during seismic events (50-60% of gravity acceleration). Premium Energy commits to ensuring the proposed dams have a high seismic reliability to ensure safety of the nearby population and infrastructure.

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<sup>2</sup> <https://www.atsdr.cdc.gov/HAC/pha/KlauBuenaVistaMine/Klau-BuenaVistaMinesHC020607.pdf>

<sup>3</sup> <https://hub-calfire-forestry.hub.arcgis.com/maps/california-wildland-fire-perimeters-all/about>



Tribes and Tribal Lands: Premium Energy has identified the Indian tribes that may be affected by the project (see page 4 of this application) and has also used U.S. Census Bureau<sup>4</sup> information to identify Tribal Lands that could be affected by the project. At the moment of filing this application, neither a Tribe, nor Tribal lands, are directly affected by the proposed Naciminto PSH. However, this could change after further investigation during the Preliminary Permit phase.

Some other opportunities have also been identified by PEH during the development of this application, including, but not limited to:

Market Operation: Premium Energy envisions the Project to provide firming and shaping services by pairing with PSH long-hours and large capacity energy storage, to keeping the grid stable in the face of potential wind intermittency, smoothing out the over- and under-generation, also integrating ancillary resources and services.

Battery Energy Storage (BESS): Inverter-based energy storage such as li-ion battery systems can complement the proposed pumped storage project. The Twitchell PSH would have the ability to withstand large inrush currents and provide inertia to the grid when a disturbance occurs, or during a grid re-energization, while the BESS could provide fast response required to sudden and rapid variations in the system.

Premium Energy commits to working with all agencies and intervenors to address any project related issues and concerns.

No further definitive information regarding this project is available at the time of filling this application.

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<sup>4</sup> <https://catalog.data.gov/dataset/tiger-line-shapefile-2017-nation-u-s-current-american-indian-alaska-native-native-hawaiian-area>

Form FERC-587  
OMB No. 1902-0145  
(Expires 10/31/2021)

**LAND DESCRIPTION**

**Public Land States**  
**(Rectangular Survey System Lands)**

1. STATE CALIFORNIA 2. FERC PROJECT NO. Not applicable

3. TOWNSHIP 25S RANGE 9E MERIDIAN Mount Diablo

4. Check one:

Check one:

     License  
 X  Preliminary Permit

     Pending  
     Issued

If preliminary permit is issued, give expiration date: Not applicable

**5. EXHIBIT SHEET NUMBERS OR LETTERS**

<b>Section 6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>18</b> <b>Exhibit 3</b>	<b>17</b> <b>Exhibit 3</b>	<b>16</b> <b>Exhibit 3</b>	<b>15</b> <b>Exhibit 3</b>	<b>14</b>	<b>13</b> <b>Exhibit 3</b>
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<b>30</b>	<b>29</b> <b>Exhibit 3</b>	<b>28</b> <b>Exhibit 3</b>	<b>27</b> <b>Exhibit 3</b>	<b>26</b> <b>Exhibit 3</b>	<b>25</b> <b>Exhibit 3</b>
<b>31</b> <b>Exhibit 3</b>	<b>32</b> <b>Exhibit 3</b>	<b>33</b>	<b>34</b>	<b>35</b> <b>Exhibit 3</b>	<b>36</b> <b>Exhibit 3</b>

6. Contact's name Victor M. Rojas

Telephone no. ( 909-595-5314 )

Date submitted March 31, 2022

This information is necessary for the Federal Energy Regulatory Commission to discharge its responsibilities under Section 24 of the Federal Power Act.

Form FERC-587  
OMB No. 1902-0145  
(Expires 10/31/2021)

**LAND DESCRIPTION**

**Public Land States**  
**(Rectangular Survey System Lands)**

1. STATE CALIFORNIA 2. FERC PROJECT NO. Not applicable

3. TOWNSHIP 25S RANGE 10E MERIDIAN Mount Diablo

4. Check one:

       License  
  X   Preliminary Permit

Check one:

       Pending  
       Issued

If preliminary permit is issued, give expiration date: Not applicable

**5. EXHIBIT SHEET NUMBERS OR LETTERS**

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<b>31</b> Exhibit 3	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>

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**LAND DESCRIPTION**

**Public Land States**  
**(Rectangular Survey System Lands)**

1. STATE CALIFORNIA 2. FERC PROJECT NO. Not applicable

3. TOWNSHIP 26S RANGE 8E MERIDIAN Mount Diablo

4. Check one:

     License  
 X  Preliminary Permit

Check one:

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     Issued

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<b>18</b>	<b>17</b>	<b>16</b>	<b>15</b>	<b>14</b> <b>Exhibit 3</b>	<b>13</b> <b>Exhibit 3</b>
<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b> <b>Exhibit 3</b>	<b>24</b>
<b>30</b>	<b>29</b>	<b>28</b>	<b>27</b>	<b>26</b>	<b>25</b>
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>

6. Contact's name Victor M. Rojas

Telephone no. ( 909-595-5314 )

Date submitted March 31, 2022

This information is necessary for the Federal Energy Regulatory Commission to discharge its responsibilities under Section 24 of the Federal Power Act.

Form FERC-587  
OMB No. 1902-0145  
(Expires 10/31/2021)

**LAND DESCRIPTION**

**Public Land States**  
**(Rectangular Survey System Lands)**

1. STATE CALIFORNIA 2. FERC PROJECT NO. Not applicable

3. TOWNSHIP 26S RANGE 9E MERIDIAN Mount Diablo

4. Check one:

       License  
  X   Preliminary Permit

Check one:

       Pending  
       Issued

If preliminary permit is issued, give expiration date: Not applicable

**5. EXHIBIT SHEET NUMBERS OR LETTERS**

<b>Section 6 Exhibit 3</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1 Exhibit 3</b>
<b>7 Exhibit 3</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12 Exhibit 3</b>
<b>18</b>	<b>17</b>	<b>16</b>	<b>15</b>	<b>14</b>	<b>13</b>
<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
<b>30</b>	<b>29</b>	<b>28</b>	<b>27</b>	<b>26</b>	<b>25</b>
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>

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## EXHIBIT 2 – DESCRIPTION OF THE PROPOSED STUDIES

### 1. GENERAL REQUIREMENT.

During the 48-month term of this Preliminary Permit, Premium Energy will conduct studies to evaluate the proposed Nacimiento PSH. The studies will be conducted both on-office and field research to improve the preliminary plant characteristics as presented in this application, which includes plant capacity, storage duration, maximum ramping during charging and discharging, energy generation, auxiliaries and station service consumption, facilities layouts, environmental and institutional constraints, costs, and schedules.

- **Technical feasibility studies:**

This proposed study will include a) Project site land investigation, b) Evaluation of proposed upper and lower reservoir alternatives, c) Engineering studies to optimize the project's physical configuration, and d) Determination of size and specifications of the required electromechanical equipment.

- **Geotechnical studies:**

This proposed study will address a) Geological and seismic conditions, and b) Soil surveys, test pits, bore holes, and topographical surveying.

- **Water and groundwater quality studies:**

This proposed study will evaluate hydrological conditions in the area (runoff water, rain, evaporation, percolation, and groundwater flow).

- **Water rights study:**

This study will analyze the project's water supply plan, including legal and water rights matters.

- **Environmental and cultural impact studies:**

This study will comprise environmental surveys, impact identification, and evaluate mitigation strategies.

- **Energy production and energy needs studies:**

This proposed study will a) Evaluate the energy market, b) Determine preliminary power sales and supply expectations, c) Evaluate transmission interconnection alternatives, and d) Analyze the electrical system impact.

- **Economic feasibility study:**

This proposed study will prepare a) Cost Estimates, b) Economic feasibility, and c) Financing options research.

Consultation with appropriate state, federal, and local resource agencies, private and non-governmental organizations will take place. Also, throughout the term of the preliminary permit, Premium Energy will conduct an Open House and multiple outreach meetings with the different stakeholders to address comments, concerns and inquiries. This would ensure a successful development of the project.

Based on the results and findings of the initial stages of the feasibility study, the applicant will prepare a Notice of Intent and Pre-Application Document as detailed in 18 C.F.R. §§5.5 and 5.6.

Temporary access roads will be required to reach the project's site and perform the required studies. New access roads will be required to reach the proposed reservoirs of Alternatives A and B.

Lastly, as all transmission alternatives consider the construction of new paths, the construction of small sections of access and spur roads would also be required to reach the proposed substation site and related transmission structures.

## 2. WORK PLAN FOR NEW DAMS CONSTRUCTION.

The new dams' construction will require subsurface investigations in private and public lands. The investigations would be done at the proposed reservoirs site, as depicted in Exhibit 3. Soil and rock borings will be necessary to determine the rock/soil structure and stability for the proposed dams and powerhouse foundations. Soil and rock samples shall be extracted to conduct studies and determine the soil mechanical properties. Therefore, assessing the project site's suitability for construction of the new dams. Furthermore, seismic surveys will also be required.

The schedule of activities will be completed by the applicant during the permit period as shown in the table below:

Table 5. Schedule of Activities

Activity	Start Month	End Month
Consultation with appropriate state, federal, and local agencies, private and non-governmental organizations	0	42
Technical feasibility studies	0	42
Environmental and cultural impact studies	6	42
Geotechnical studies	12	38
Water and groundwater quality studies	18	38
Water rights study	18	38
Energy production and need studies	38	42
Economic feasibility study	38	42
Organize PAD / NOI	42	48
Submit PAD / NOI application	48	48

The schedule of activities may deviate from its initial formulation. Activities may be adjusted or supplemented depending upon circumstances which may develop as the studies proceed. Remedial actions to the possible disturbance of the proposed studies include the implementation of an erosion and material disposal plan, backfilling of core borings and test pits, and replanting any disturbed vegetation.



### 3. STATEMENT OF COSTS AND FINANCING.

The total estimated cost of carrying out or preparing the studies, investigations, tests, surveys, maps, plans, or specifications described above are about \$5 Million dollars.

The expected sources of financing available to carry out the activities of the described feasibility study are:

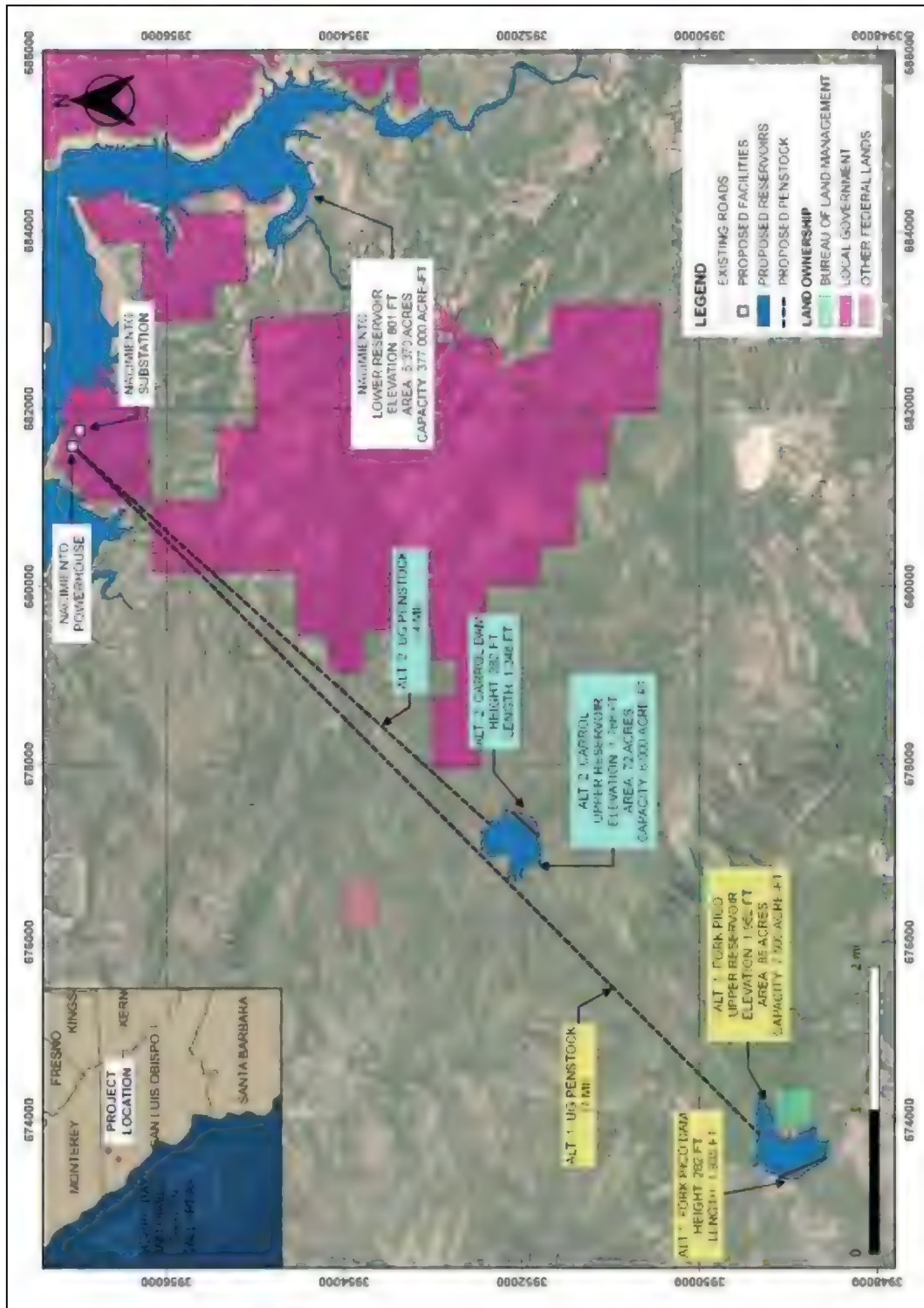
- Premium Energy's available funds
- Equity Investors

The proposed market for the energy storage and production covers the electric markets in California. Power purchasing entities and other potential off takers will be identified in further investigations during the term of the preliminary permit.

# EXHIBIT 3 – NACIMIENTO PUMPED STORAGE HYDRO PROJECT MAPS

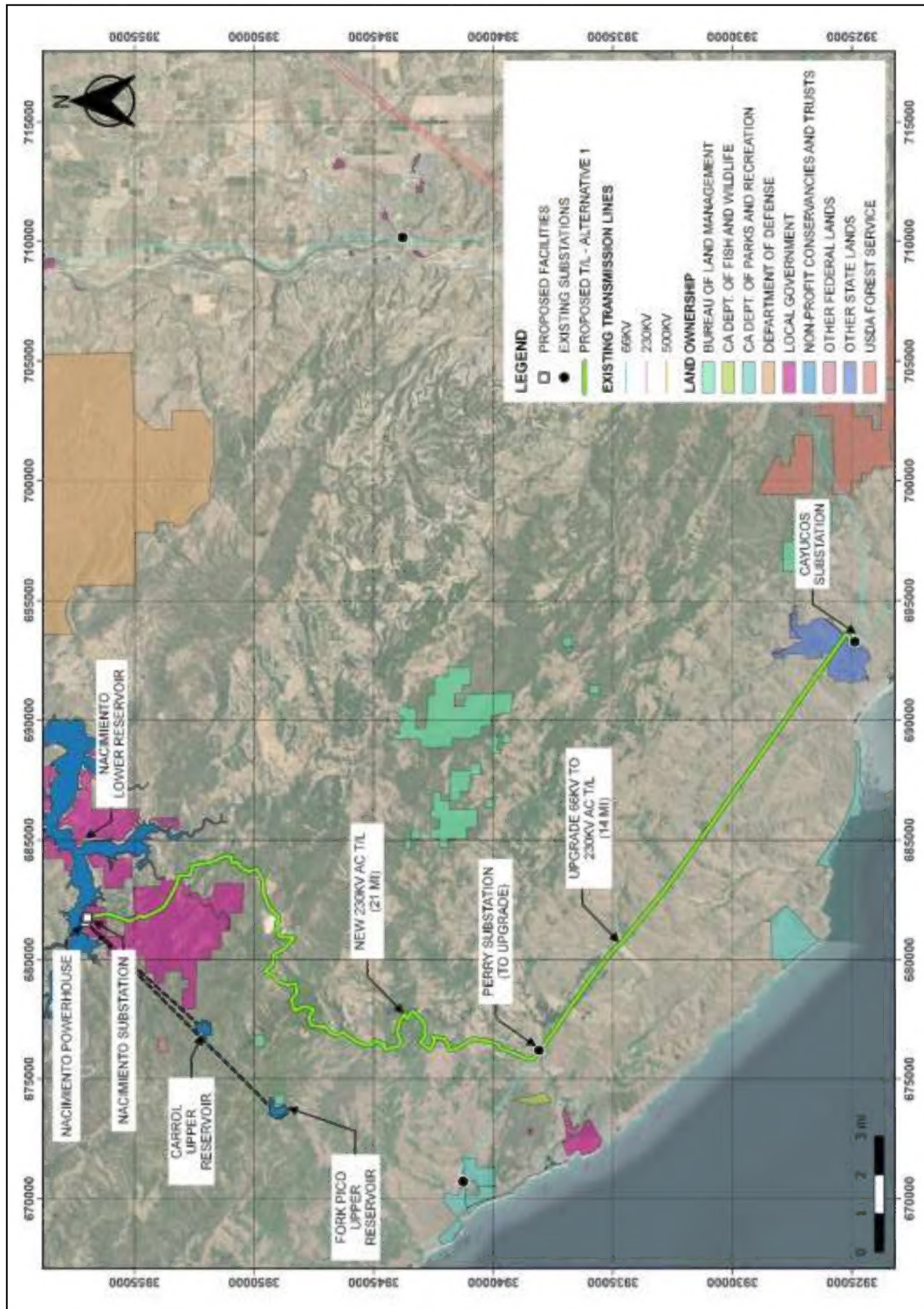
## 1. PROPOSED PROJECT STUDY AREA BOUNDARY.

**Map 1. Project Layout**

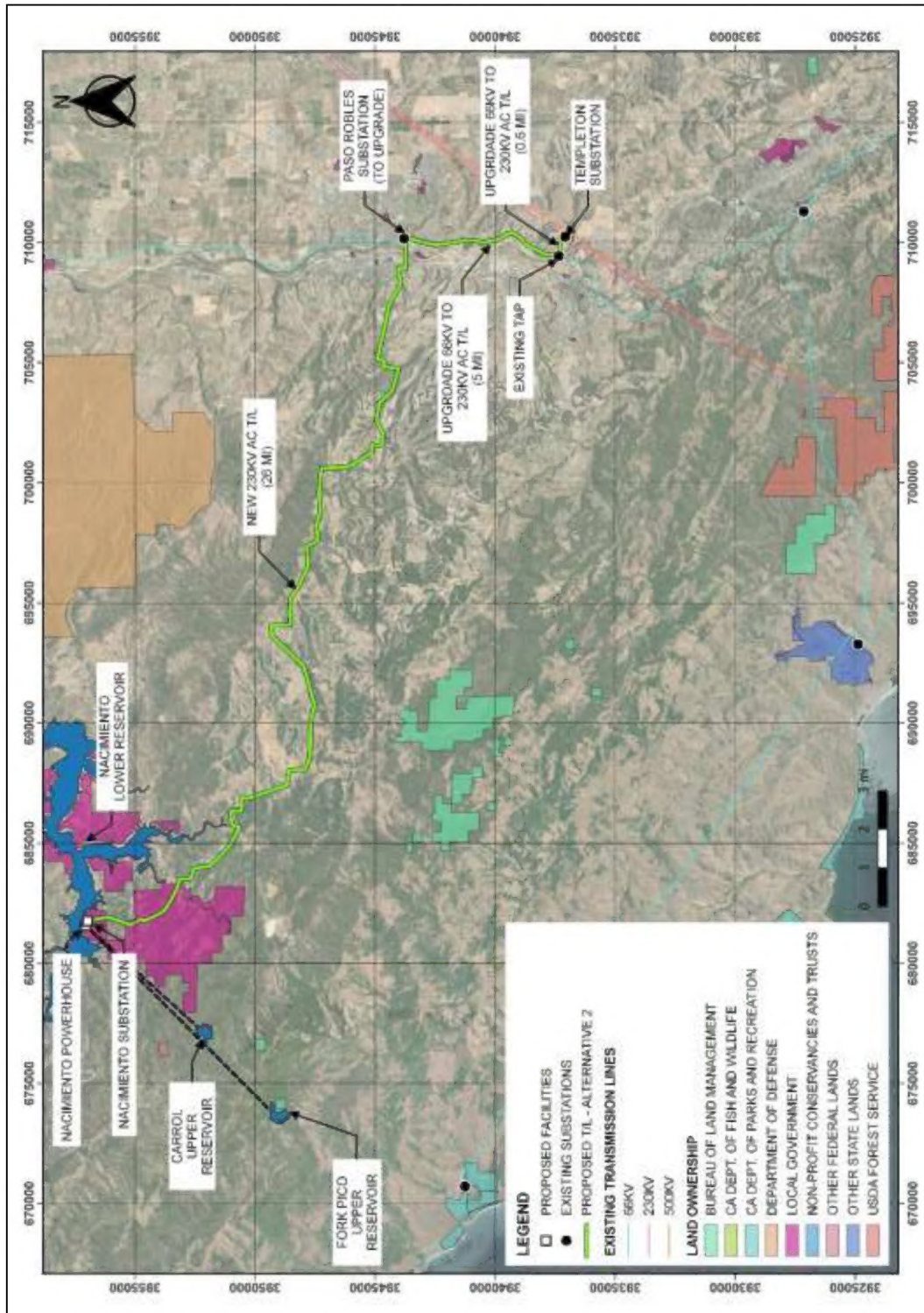


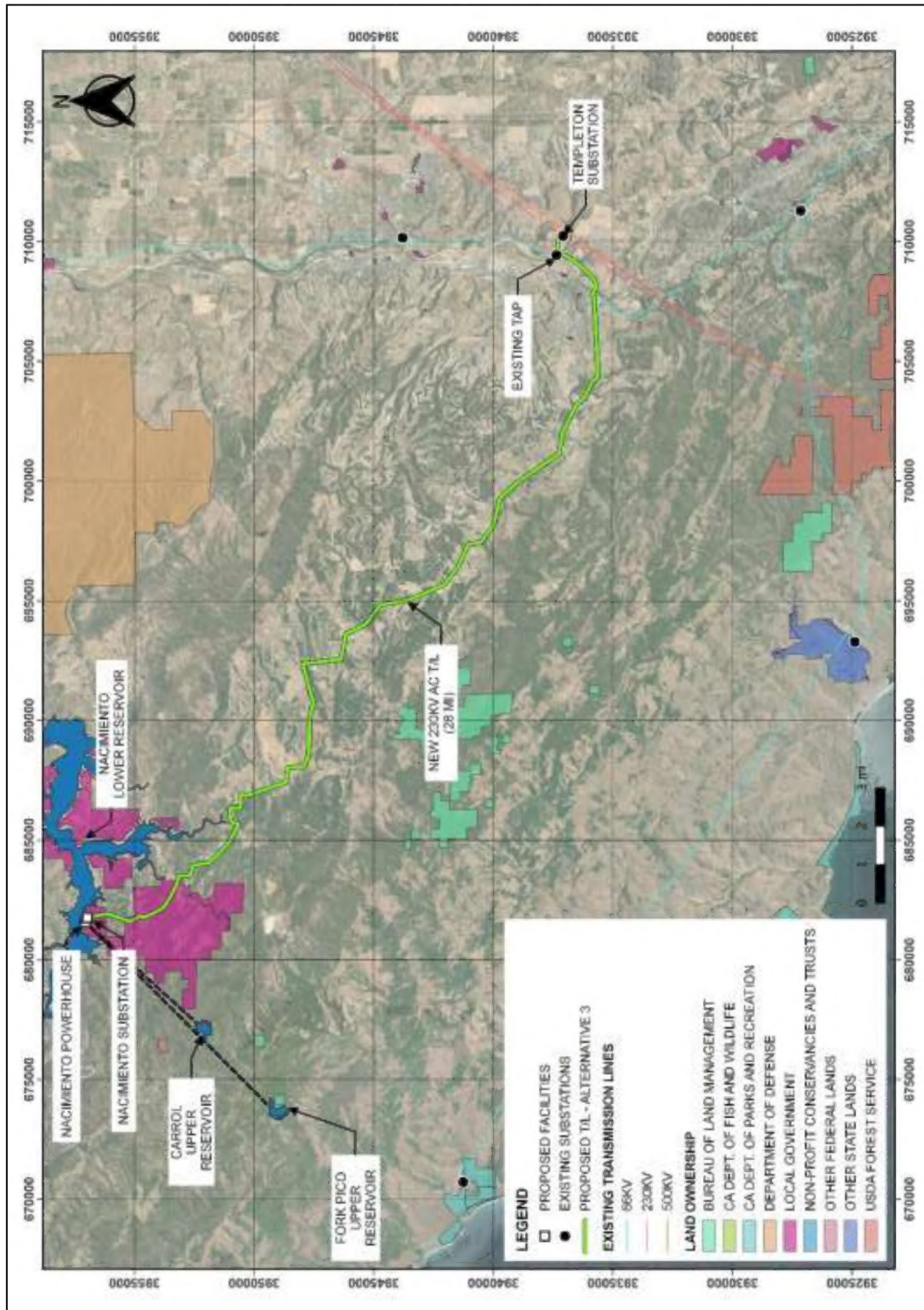
## 2. PROPOSED ALTERNATIVES FOR ELECTRICAL INTERCONNECTION.

**Map 2. Transmission Alternative 1 (PG&E).**





**Map 3. Transmission Alternative 2 (PG&E).**

**Map 4. Transmission Alternative 3 (PG&E).**

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